ABSTRACT OF THE DISCLOSURE

In accordance with a method of trench isolation, a first oxide layer is formed on a semiconductor substrate. A first conductive layer and a nitride layer are successively formed on the first oxide layer. The nitride layer, the first conductive layer and the first oxide layer are etched to form a nitride layer pattern, a first conductive layer pattern and an oxide layer pattern. A portion of the substrate adjacent to the first conductive layer pattern is etched to form a trench in the substrate. The trench is cured under dinitrogen monoxide (N_2O) or nitrogen monoxide(NO) atmosphere. A second oxide layer is formed in the trench through an in-situ process.